

What is claimed is:

1. An optical-path apparatus of two-lens and multi-reflection constituted mainly in the optical scanner, comprising;

5 a light source element which supplies the necessary "light" shining onto an intended, scanned paper;

a camera lens which will focuses the "light";

a charge coupling device element which will transfer the signal of "light" into the digital signal which can be memorized and managed by the computer.

10 a reflective element which includes a first lens and a second lens. The relative angle of corresponding two mirrors is arranged so that the "light" coming from the original paper can be reflected in appropriate direction. In the mean time, in the course of the optical-path of the "light", it makes two or more times reflection between the first mirror and the second mirror. At last, the camera lens focuses the "light" into an image onto the element of the charge coupling device element;

15 the main point is that there are two areas on the second mirror. A transparent window positioned between the original paper and the light source element. Another characteristic is a reflection area which can reflect the "light". The reflective "light" first passes through the penetration area in the second mirror to the first mirror and then reflects back to the reflection area of the second mirror.

20 2. An optical-path apparatus of two-lens and multi-reflection cited in claim 1, wherein includes at least a paper-feeding roller and at least an original paper. The paper-feeding roller can be operated by manual or moved automatically with respect to the original paper.

30 3. An optical-path apparatus of two-lens and multi-reflection cited in claim 1, wherein the second reflection mirror consists of two parts. The first part is reflection area which is coated with a layer of material capable of reflecting the "light". The other part of the second reflection mirror is a transparent window which stays at the original state of transparency.

4. An optical-path apparatus of two-lens and multi-reflection cited in claim 3, wherein one of the coated materials is mercury.

5. An optical-path apparatus of two-lens and multi-reflection cited in claim 3, wherein the material is coated on the surface of mirror to possess the characteristic of reflection.

5 6. An optical-path apparatus of two-lens and multi-reflection cited in claim 3, wherein the material is coated on the bottom of mirror to possess the characteristic of reflection.